

Preface

The analysis in this report was undertaken at the request of the Office of Fossil Energy, U.S. Department of Energy (DOE). In the request, the Principal Deputy Assistant Secretary asked the Energy Information Administration (EIA) to analyze the potential impacts of accelerated depletion on domestic oil and natural gas prices and production, as noted in the first letter in Appendix A. A case depicting accelerated depletion of domestic oil and natural gas supply was also requested, as well as several sensitivity cases evaluating key variables that could counteract the effects of accelerated depletion: world oil prices, advances in technology, and increased access to Federal lands. A second letter outlining the detailed assumptions followed the first.

The energy projections presented here are from the National Energy Modeling System (NEMS), an energy-economy model of U.S. energy markets designed, developed, and maintained by EIA. NEMS is used each year to provide the projections in the *Annual Energy Outlook* (AEO). The same general methodologies and assumptions underlying the *Annual Energy Outlook 2000*, published in December 1999, were used in this analysis. Some minor modifications were made to reflect recent changes in fuel prices, environmental constraints that limit access to resources, and changes in assumptions related to the technology of unconventional gas recovery. The modifications are outlined in Appendix E.

Chapter 1 of this report provides background discussion of what is meant by accelerated depletion and how it is measured, as well as the framework and methodology of the analysis. The results are summarized in Chapter 2. Appendix A contains the letters requesting the analysis. Appendix B provides detailed results from the accelerated depletion cases. Appendix C compares the results of this analysis and the National Petroleum Council (NPC) study, *Natural Gas: Meeting the Challenges of the Nation's Growing Natural Gas Demand*, released in December 1999. Appendixes D, E, and F give more detailed information on key model equations and assumptions. Appendix G relates the cases developed in this analysis in response to reported increases in the rate at which production from wells in the Gulf of Mexico is declining.

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